Intermodal Passenger Connectivity Database

Of the approximately 7,200 passenger transportation in the United States, 56 percent offer travelers the ability to connect among the scheduled passenger transportation modes according to the Bureau of Transportation Statistics' recently updated Intermodal Passenger Connectivity Database (IPCD). The IPCD is the first ever national quantification of the degree of connectivity in the passenger transportation system. [1] It provides data on how many modes provide service at, or within a close radius of the rail, air, intercity bus, and ferry terminals in the United States. The database was completed in 2012 and updated in mid-2013 with an identifier linking records for different modes that serve the same facility.

Connectivity

There are three basic types of linkups that can occur at the transportation facilities in the IPCD and be used to quantify the degree of connectivity at a facility. A facility is considered to be connected, also termed as intermodal, when (1) intercity transportation and local transit, (2) two or more intercity modes, or (3) two or more local transit modes are present, or less than one-block apart. Where one of these three linkups occurs but just at a distance slightly farther apart than one block, or the timing/scheduling preclude a timely connection, the facility is considered to be nearly connected.

Per these criteria, the IPCD shows that:

- Approximately 4,300 passenger transportation terminals in the United States (56 percent of all terminals) are connected. Rail stations are more likely to be intermodal while airports are the least likely, with only about one-fourth served by modes other than air. (See table 1)
- Roughly 880 facilities are nearly connected. Light rail stations are the most likely type of transportation facility to have another mode stopping nearby but not making a connection. (See table 1)

[1] The intermodal passenger connectivity database includes the scheduled passenger transportation modes. It does not include on demand transportation such as taxis, hotel shuttles, paratransit, or private transportation services.

Table 1: Connectivity by Terminal Type for all Intermodal Passenger Connectivity Database Facilities

Terminal Type	Facilities	Connected Facilities	Percent Connected	Nearly Connected Facilities	Percent Nearly Connected
Heavy Rail Transit	992	824	83.1	137	13.8
Commuter Rail	1,158	813	70.2	106	9.2
Light Rail Transit	1,189	793	66.7	222	18.7
Intercity Rail	527	281	53.3	94	17.8
Intercity Bus	2,421	1,066	44.0	231	9.5
Transit Ferry	184	77	41.8	30	16.3
Intercity Ferry	103	39	37.9	9	8.7
Airports	666	160	24.0	55	8.3
TOTAL	7,240	4,053	56.0	884	12.2

NOTES: Intermodal facilities are defined as facilities that are served, normally within a one block radius, by at least two modes of scheduled public transportation.
SOURCE: Intermodal Passenger Connectivity Database, U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Washington, DC, August 2013, available at http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=640&DB_URL= .

- Most intermodal terminals (96 percent) are served by transit (alone or in combination with intercity service). Only 44 percent of intermodal terminals are served by an intercity (long distance) mode (alone or in combination with transit service). (See table 2)

Table 2: Intermodal Terminals by Connectivity Type

	Transit Terminal Only	Intercity Terminal Only	Transit and Intercity Terminal	Total Terminals	Percent of Intermodal Terminals
Intermodal Terminals Served by					
2 or more transit modes only	2,282	N/A	1,062	3,344	82.5
2 or more intercity modes only	N/A	115	15	130	3.2
At least one transit and one intercity mode	N/A	N/A	579	579	14.3
Total Intermodal Terminals	2,282	115	1,656	4,053	
Percent	56.3	2.8	40.9	100.0	
No connection (not intermodal)	1,016	2,171	N/A	3,187	
Total Terminals	3,298	2,286	1,656	7,240	

NOTE: Intermodal facilities are defined as facilities that are served, normally within a one block radius, by at least two modes of scheduled public transportation. Transit facilities are those served by transit ferries; transit buses; or heavy, light or commuter rail. Intercity facilities are those served by intercity ferries; intercity rail; intercity, supplemental or code share buses; or air service.
SOURCE: Intermodal Passenger Connectivity Database, U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Washington, DC, August 2013, available at http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=640&DB_URL= .

- Connectivity patterns are not uniform across the country. Connectivity is much greater in metropolitan areas than it is in micropolitan areas or rural areas. In metropolitan 69 percent of all facilities are intermodal, while only 20 percent are in micropolitan areas. Intermodal facilities

are less prevalent in rural areas, with only 7 percent of rural passenger terminals served by multiple modes. (See table 3)

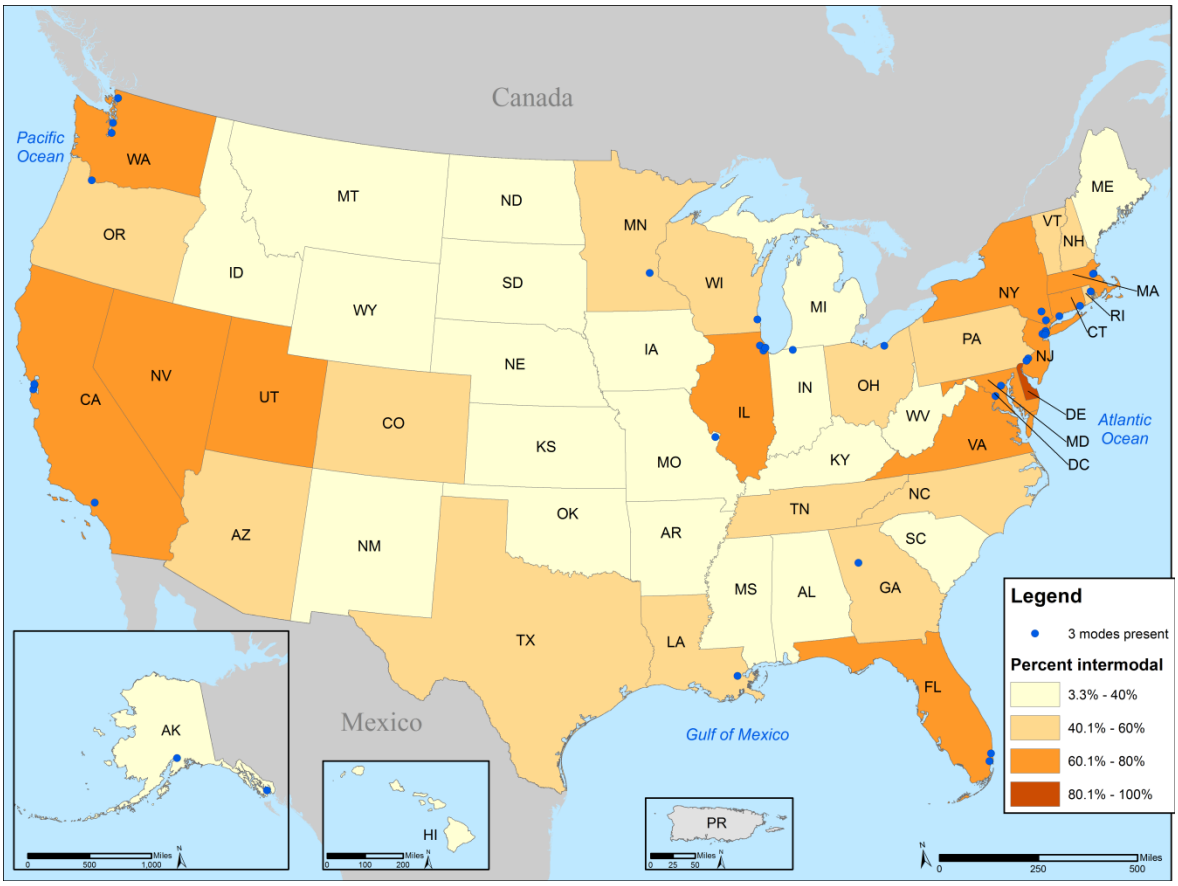
Table 3: Connectivity by Metropolitan Status

Metropolitan status	Facilities	Connected Facilities	Percent Connected	Nearly Connected Facilities	Percent Nearly Connected
Metropolitan area	5,553	3,826	68.9	814	14.7
Micropolitan area	835	169	20.2	55	6.6
Rural	852	58	6.8	14	1.6
TOTAL	7,240	4,053	56.0	883	12.2

NOTES: Areas not belonging to a metropolitan or micropolitan area are classified as rural.
SOURCE: Intermodal Passenger Connectivity Database, U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Washington, DC, August 2013, available at http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=640&DB_URL= .

- States with large metropolitan areas tend to offer a higher degree of connectivity, while more rural states normally have a lower percentage of intermodal facilities. The percent of facilities with an intermodal connection is higher in some States (such as such as Oregon, Utah, Virginia and Washington) than expected because of State involvement in integrating the passenger transportation network. Delaware is the only state with all its scheduled passenger facilities in the IPCD offering some type of intermodal connection. (See figure 1 and Appendix A)

Figure 1: Percent of Passenger Transportation Terminals with Intermodal Connections by State



NOTE: Intermodal facilities are defined as facilities that are served, normally within a one block radius, by at least two modes of scheduled public transportation.

SOURCE: Intermodal Passenger Connectivity Database, U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Washington, DC, August 2013, available at http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=640&DB_URL= .

Appendix A

Intermodal and Non-Intermodal Passenger Transportation Facilities by State in the Intermodal Passenger Connectivity Database

State	Abbrevi-ation	Intermodal Facilities	Non-Intermodal Facilities	Total Facilities	Percent Intermodal
Alabama	AL	6	16	22	27.3
Alaska	AK	32	277	309	10.4
Arizona	AZ	55	40	95	57.9
Arkansas	AR	16	36	52	30.8
California	CA	736	219	955	77.1
Colorado	CO	44	64	108	40.7
Connecticut	CT	53	26	79	67.1
Delaware	DE	11	0	11	100.0
District of Columbia	DC	47	2	49	95.9
Florida	FL	116	41	157	73.9
Georgia	GA	48	43	91	52.7
Hawaii	HI	2	12	14	14.3
Idaho	ID	8	41	49	16.3
Illinois	IL	373	109	482	77.4
Indiana	IN	30	47	77	39.0
Iowa	IA	22	35	57	38.6
Kansas	KS	10	30	40	25.0
Kentucky	KY	9	16	25	36.0
Louisiana	LA	29	28	57	50.9
Maine	ME	26	48	74	35.1
Maryland	MD	122	33	155	78.7
Massachusetts	MA	232	114	346	67.1
Michigan	MI	48	110	158	30.4
Minnesota	MN	52	68	120	43.3
Mississippi	MS	6	36	42	14.3
Missouri	MO	34	51	85	40.0
Montana	MT	9	57	66	13.6
Nebraska	NE	1	29	30	3.3
Nevada	NV	16	9	25	64.0
New Hampshire	NH	17	22	39	43.6
New Jersey	NJ	168	97	265	63.4
New Mexico	NM	13	31	44	29.5
New York	NY	652	376	1,028	63.4
North Carolina	NC	51	50	101	50.5
North Dakota	ND	6	31	37	16.2
Ohio	OH	57	71	128	44.5

State	Abbrevi-ation	Intermodal Facilities	Non-Intermodal Facilities	Total Facilities	Percent Intermodal
Oklahoma	OK	5	23	28	17.9
Oregon	OR	97	83	180	53.9
Pennsylvania	PA	264	266	530	49.8
Rhode Island	RI	14	11	25	56.0
South Carolina	SC	15	41	56	26.8
South Dakota	SD	3	25	28	10.7
Tennessee	TN	30	36	66	45.5
Texas	TX	151	148	299	50.5
Utah	UT	50	26	76	65.8
Vermont	VT	11	11	22	50.0
Virginia	VA	79	31	110	71.8
Washington	WA	115	57	172	66.9
West Virginia	WV	9	19	28	32.1
Wisconsin	WI	47	66	113	41.6
Wyoming	WY	6	29	35	17.1
Grand Total		**4,053**	**3,187**	**7,240**	**56.0**

SOURCE: Intermodal Passenger Connectivity Database, U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Washington, DC, August 2013, available at http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=640&DB_URL= .